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Curriculum vitae:

The author earned her PhD from the Graduate School of Agriculture at Tokyo University of Agriculture (Japan). Her doctoral thesis focused on measuring neurotransmitters and hormones in equine lacrimal fluid, examining their correlation with equine-mediated interventions, and elucidating differences in equine occupational and individual traits. Following the completion of her PhD, she contributed to a child development facility, offering assistance to children and their families. Subsequently, she served as a researcher at the University of Tsukuba before assuming her current role at Mejiro University. In addition to her academic work, she works as an equine intervention instructor on weekends, providing services to people with disabilities, children, the elderly, and able-bodied individuals. Author of articles researching the characteristics of horses utilized in intervention activities and the educational impact of equine-assisted activities on participants.

Category: short paper

Topic: Horse Related Topics: Equine Welfare

Authors:

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Title: FEASIBILITY OF MONITORING STRESS MARKERS IN HORSE COATS FOR DISABLED RIDING

Keyword 1: Cortisol

Keyword 2: Oxytocin

Keyword 3: horse hair

Abstract:

Objective: This study focused on the coat of the horse, with the aim of investigating the possibility of extracting stress markers as a sample for non-invasive, long-term indicators. Hair generally grows from nutrients in the blood. During this process, other components in the blood accumulate in the hair at the same time. Studies in various animal species, including horses, have reported that one component that accumulates is cortisol (COR). The objective of the study was to examine the feasibility of simultaneously extracting COR and oxytocin (OXT) from horse coats and to investigate the relationship between COR and OXT. Experiments were conducted to investigate the stress accumulated in the horse's coat by these methods.

Design: Nine horses from a Japanese facility for children with disabilities were studied. Coat samples were collected in June, September, and December 2023 for seasonal comparisons. COR and OXT were extracted using established protocols, and SPSS was employed for statistical analyses.

Results: Simultaneous extraction of COR and OXT was feasible. COR levels were higher in December compared to June, while OXT levels remained consistent across seasons. Regarding the condition of the horses during the period when the COR was elevated, the keeper stated that there were changes in behaviour and training among the individuals.

Conclusion: This study confirms simultaneous COR and OXT extraction from horse coats, providing insights into stress variability. Individual differences identified may help understand the balance between exercise and rest. Increasing sample size and frequency of sampling can enhance study reliability.